




UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,492	10/02/2003	Ralf Krueger	LWEP:119US	2491
24041	7590	05/27/2005	EXAMINER	
SIMPSON & SIMPSON, PLLC 5555 MAIN STREET WILLIAMSVILLE, NY 14221-5406			PRITCHETT, JOSHUA L	
			ART UNIT	PAPER NUMBER
			2872	
DATE MAILED: 05/27/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/605,492	Applicant(s) KRUEGER, RALF 	
	Examiner Joshua L. Pritchett	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 8-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Amendment after a non-final rejection filed April 21, 2005.

Claims 1-3 and 11-13 have been amended as requested by the applicant.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 8-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman (US 4,200,354) in view of Wolleschensky (US 2003/0132394).

Regarding claims 1-3 and 13, Hoffman teaches an apparatus for implementing phase-contrast or modulation-contrast observation on microscopes with the aid of a modulator (8) arranged in each pupil plane (Fig. 1) in the observation beam path (Fig. 1) and containing at least one layer (8), and a stop (Fig. 10) in the illumination beam path (Fig. 1). Hoffman further teaches the use of a tilting optical element (4) to direct the observation light beam onto a desired location on modulator (8) (col. 4 lines 10-15). Hoffman further teaches that optical element (4) can be eliminated. Hoffman further teaches that the modulator is transmissive (Fig. 1). Fig. 1

Art Unit: 2872

show light must pass through the modulator to reach the virtual plane. Hoffman lacks reference to the modulator tilting. Wolleschensky teaches a transmissive amplitude modulator capable of rotating (Figs. 7A and 16A; para. 0125). In the broadest reasonable interpretation of the phrase "slight tilt" the Wolleschensky reference teaches the greatest modulation is achieved by a "slight tilt" (para. 0125). Wolleschensky further teaches the modulator comprising glass plates of various glasses (para. 0088). It would have been obvious to a person of ordinary skill in the art to have the modulator of Hoffman capable of tilting as taught by Wolleschensky for the purpose of eliminating the need for the optical element (4) of Hoffman to reduce aberrations in the image created by the extra optical element.

Regarding claims 8-10, Hoffman teaches the invention as claimed but lacks reference to the use of a defined variable layer configuration. Wolleschensky teaches the use of a defined variable layer configuration (Fig. 7D). It would have been obvious to a person of ordinary skill in the art to have the Hoffman invention include the defined variable layer configuration of Wolleschensky for the purpose of attenuating the modulator the desired phase modulation.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman (US 4,200,354) in view of Dultz (US 2004/0169925).

Hoffman teaches an apparatus for implementing phase-contrast or modulation-contrast observation on microscopes with the aid of a modulator (8) arranged in each pupil plane (Fig. 1) in the observation beam path (Fig. 1) and containing at least one layer (8) modifying the phase or amplitude (abstract), and a stop (Fig. 10) in the illumination beam path (Fig. 1). Hoffman further teaches the use of a tilting optical element (4) to direct the observation light beam onto a desired

Art Unit: 2872

location on modulator (8) (col. 4 lines 10-15). Hoffman teaches the use of polarization means in the modulator (col. 7 lines 26-29). Hoffman lacks reference to the use of polarization means combined with retardation plates for phase shifting. Dultz teaches polarization means (P1) in combination with retardation plates (1) associated with a transmissive phase modulator (4; Fig. 4). Fig. 4 shows that the light pass through the retardation plate twice, therefore the single plate acts as a plurality of plates. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the Hoffman invention include the retardation plates of Dultz for the purpose of providing an in-phase image to the observer or detector.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman (US 4,200,354) in view of MacDonald (US 6,462,858).

Hoffman teaches an apparatus for implementing phase-contrast or modulation-contrast observation on microscopes with the aid of a modulator (8) arranged in each pupil plane (Fig. 1) in the observation beam path (Fig. 1) and containing at least one layer (8) modifying the phase or amplitude (abstract), and a stop (Fig. 10) in the illumination beam path (Fig. 1). Hoffman further teaches the use of a tilting optical element (4) to direct the observation light beam onto a desired location on modulator (8) (col. 4 lines 10-15). Hoffman further teaches a portion of the modulator being non-reflective (Fig. 1). Hoffman lacks reference to the modulator being supported on a carrier. MacDonald teaches the use of a carrier introducible into the beam path (Fig. 6) and mounted on the carrier and capable of tilting (col. 6 lines 33-34). The modulator of MacDonald contains a plurality of different modulating regions and can therefore be interpreted as a plurality of modulators. It would have been obvious to a person of ordinary skill in the art at

Art Unit: 2872

the time the invention was made to have the Hoffman invention include the carrier of MacDonald for the purpose of precisely and accurately manipulating the positioning of the modulator.

Response to Arguments

Applicant's arguments, see Amendment, filed April 21, 2005, with respect to objection to claims 2 and 3 have been fully considered and are persuasive. The objection of claims 2 and 3 has been withdrawn.

Applicant's arguments, see Amendment, filed April 21, 2005, with respect to the rejection(s) of claim(s) 1 and 11 under Hoffman in view of Greywall have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration of the newly amended claim limitations, a new ground(s) of rejection is made in view of Hoffman in view of Wolleschensky and Hoffman in view of Dultz. Applicant argued that the Greywall reference failed to teach or suggest a transmissive modulator. The examiner agreed and new art was applied to teach the newly added claim limitations.

Applicant's arguments filed April 21, 2005 have been fully considered but they are not persuasive.

On pages 5 and 6 of Amendment, applicant argues that Hoffman teaches against a tiltable modulator. Applicant argues that because a tilting prism is of no importance to Hoffman the

Art Unit: 2872

reference teaches against the use of a tilting modulator. The idea that an optical element is not important to a reference does not exclude the fact that it would be obvious to one of ordinary skill in the art to modify the reference in light of an additional teaching to include such an element and to reasonably expect the modification to succeed. Further, the Hoffman reference teaches redirecting light onto different areas of the modulator to produce different modulations of the light beam. Therefore, one of ordinary skill in the art would be motivated to introduce a tilting modulator into the Hoffman reference for the purpose of producing different modulations of the light beam without the need for an additional optical element to redirect the light to different areas of the modulator.

On page 7 of Amendment, applicant argues that Hoffman does not teach a tiltable modulator with respect to claim 12. The MacDonald reference is used to teach the tilting modulator.

On page 8 of Amendment, applicant argues that MacDonald is not analogous art. In response to applicant's argument that MacDonald is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Hoffman reference, the MacDonald reference and the claimed invention are all related to altering the state of a light beam with a modulator.

On page 8 of Amendment, applicant argues that Hoffman fails to teach multiple modulator. The claim limitations states "various modulators are arranged on a carrier." The

Art Unit: 2872

Hoffman reference teaches a modulator that varies the degree of modulation across the modulator. Therefore, the Hoffman modulator would act as multiple modulators, each having a uniform degree of modulation.

On page 8 of Amendment, applicant argues that MacDonald fails to teach a non-reflective modifying layer. This limitation is taught by Hoffman.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2872


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318.

The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP 



DREW A. DUNN
SUPERVISORY PATENT EXAMINER